The Bayou Observer

March 16, 2011

SPRING 2011 EDITION

What's a PoP?

Just exactly what is a PoP?

If you answered something along the lines of a sugary carbonated drink, then there are two things I should point out:

First, in the Gulf South, it's perfectly acceptable (or even preferred) to call any sort of carbonated beverage a Coke (other than beer, of course). This is true regardless of what brand that beverage may be. Second, you're reading a newsletter published by an NWS office. The correct answer probably has something to do with weather.

All kidding aside, in NWS-speak, PoP stands for "probability of precipitation." It's that part of the weather forecast that tells you what the chance of rain is going to be. If you knew the answer, congratulations. But what does it mean?

Put simply, the PoP indicates the probability that precipitation will be reported at a given location during a specified period of time. This may seem obvious, but what this definition does NOT mention is just as important as what it does.

The definition purposely ignores both the amount and duration of expected rainfall. The PoP has nothing to do with either of these weather aspects. Thus, a high PoP does not necessarily mean we're expecting rain all day long, nor does it mean we're expecting several inches of rain. Likewise, a low PoP does not preclude localized heavy rainfall.

The PoP can in some ways be thought of as an indication of the expected areal coverage of precipitation (24% or less indicating isolated, 25% to 54% indicating scattered, 55% to 74% indicating numerous, and 75% or more indicating widespread). Hopefully this explanation helps shed some light on the often misunderstood PoP.

Inside this issue:

StormReady

The United States is the most severe weather prone country on Earth. Every year, the US deals with an average of 10,000 thunderstorms, 5,000 floods, 1,000 tornadoes, and 2 landfalling hurricanes. In addition to these events, there are also winter storms, heat waves, and wild fires. Extreme weather events, including severe thunderstorms, are responsible for roughly 500 deaths and nearly $14 billion in damage each year across the United States. Nearly 90% of all presidentially declared disasters are weather-related.

The National Weather Service's StormReady program is designed to help communities prepare for and cope with these extreme weather events. The StormReady program started in Tulsa, OK in 1999. StormReady focuses on the communication and safety skills

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Spring Climatology and Outlook

Meteorological spring, which encompasses the months of March, April, and May, is marked by extremely varied weather patterns. While many cold fronts are still able to penetrate southward through the northern Gulf Coast region, there can also be significant warm periods between the fronts.

Average temperatures and precipitation for the spring months can be found in the tables below. Temperature ranges are given in the 4 to 5 degree range that best captures the values for the entire area (using New Orleans, Baton Rouge, McComb and Gulfport as the basis). Actual normal values may fall slightly outside of these ranges.

Record temperatures and precipitation are also found in the tables below. Temperatures are again given in the 4 to 5 degree increment that best encompasses the values for the entire region. Since record temperatures vary greatly across the area during the spring months, some of the actual record values may fall several degrees outside of the given range.

March			
	High	Low	Precip
Norm	67-72	48-53	5.0-6.3
Record	82-87	28-32	12-16

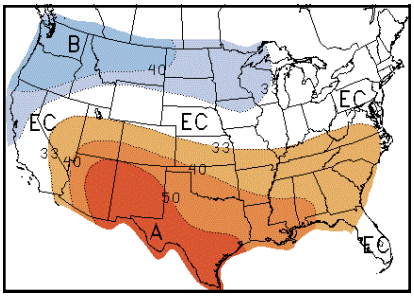
April			
	High	Low	Precip
Norm	76-81	55-60	5.6-6.0
Record	85-90	37-42	15-17

May			
	High	Low	Precip
Norm	82-87	63-68	4.5-5.5
Record	90-95	47-52	12-24

This is especially true for the months of March and April. During these months, cold fronts begin to stall before moving entirely through the area, resulting in sharp temperature gradients across the region — which stretches from McComb, MS to the Gulf Coast. The latest recorded freeze at the New Orleans airport occurred on April 8, 1971 when a strong cold front brought freezing temperatures to nearly the entire area. Farther north in McComb, the latest freeze on record occurred on April 15, 2008. In this case, the front progressed southward toward the coast, but never made it through the southern half of the area. On the same day, the low temperature in New Orleans was 46 degrees.

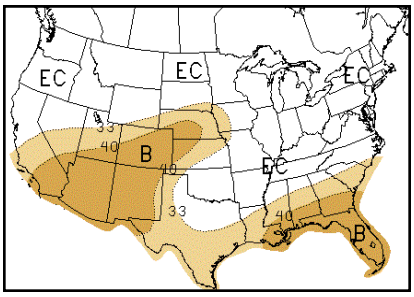
The NWS's Climate Prediction Center (CPC) recently released its spring outlook and is forecasting a 40 percent chance of warmer than normal temperatures as well as a 40 percent chance of below normal precipitation. The forecast is based on several different parameters including El Nino and La Nina, overall long term trends, several different natural oscillations (such as the Madden Julian Oscillation, The North Atlantic Oscillation, and the Pacific Decadal Oscillation), and dynamical forecast models.

This spring, CPC expects spring weather patterns to be dominated by moderate La Nina conditions. La Nina is the cool phase of the El Nino Southern Oscillation (ENSO) and is characterized by anomalously cool sea surface temperatures off the coast of Peru.



Above: Temperature Probabilities for March, April, and May

Below: Precipitation probabilities for March, April, and May



These anomalously cool sea surface temperatures have significant impacts on the large scale circulations over the tropical Pacific. The impacts of these tropical changes, in turn affect the atmospheric circulations over North America. With La Nina conditions forecast to persist through the spring months, CPC expects to see below normal temperatures across the pacific northwest and through the Dakotas, with above normal temperatures expected across the southern half of the country. Additionally, drier than normal conditions are expected across the desert southwest and also across the southeastern United States.

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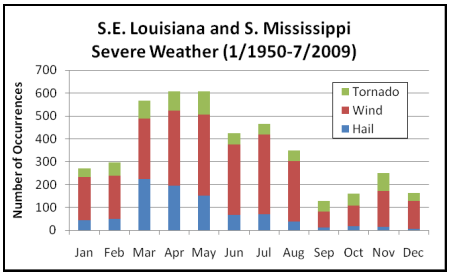
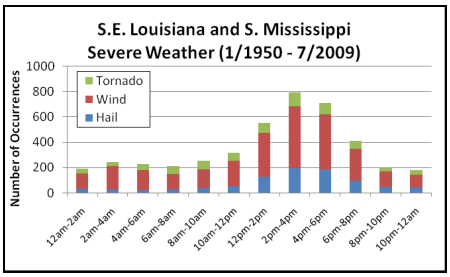
Severe Weather Climatology and Safety

What is severe weather and When Does it Occur?

At any given moment, there are roughly 2000 thunderstorms occurring around the globe. Any thunderstorms can result in brief periods of heavy rain accompanied by strong wind gusts. However, those that become severe can cause property damage, personal injuries or even loss of life. Severe weather is not a common occurrence across the northern Gulf Coast region, but it does occur, and it should not be taken lightly.

There are three hazards associated with severe weather (large hail, strong/damaging winds, and tornadoes) and all modes are possible across the region. However, strong and damaging wind is by far the most common severe weather mode across the local area. Severe wind gusts (60 mph or greater) account for more than 60 percent of all reported severe weather across Southeast Louisiana and Southern Mississippi. Large hail accounts for 21 percent, and tornadoes account for the remaining 17 percent.





As evident in the graphs, severe weather is most likely during the spring months with a secondary peak during November. Severe storms generally develop during the afternoon hours when daytime heating helps to destabilize the atmosphere, but they can occur at any time of the day. When severe weather occurs outside of the afternoon hours, it is usually in response to some larger scale forcing such as a cold front or upper level low moving through the area.

What should I do in the event of severe weather?

When conditions appear favorable for severe weather, the National Weather Service will issue a Severe Thunderstorm Watch or Tornado Watch. When watches are in effect, residents should stay alert for rapidly changing weather conditions and be ready to take action if warnings are issued. A warning will be issued any time NWS forecasters feel severe weather is an imminent threat to a given area. When a warning is issued, residents in the warned area should seek safe shelter immediately.

The definition of "safe shelter" depends on where you are and what is available. In your home (unless it is a mobile home or trailer), move to a small interior room or hallway on the lowest floor and if possible, get under a sturdy piece of furniture. If you live in a mobile home or trailer, you are not safe. The thin walls of mobile homes are very vulnerable to wind-blown debris, and mobile homes can also be overturned by strong wind gusts or tornadoes even if they are properly tied down. For this reason, you need to move to a sturdier shelter or leave the mobile home and lie flat in a ditch or on other low ground, protecting your head. Office buildings, hospitals, schools and other large structures typically have designated shelters, so move quickly to those areas. If caught outdoors, try to find shelter in a sturdy structure. Otherwise, lie as low on the ground as possible, preferably in a ditch. Do not try to outrun a severe thunderstorm or tornado in your car, and do not seek shelter from a tornado beneath a highway overpass.

What can I do to prepare ahead of time?

To be prepared for any severe weather, you and your family should try to develop an action plan for responding to warnings issued for your area. At a minimum, this plan should include designated shelter areas within or near your home. Additionally, if you do not already have one, consider purchasing a NOAA weather radio with SAME (specific area message encoder) capability. These radios can be programmed to alarm any time a warning is issued for your specific area, hopefully giving you enough time to take shelter ahead of the storm. NOAA weather radio is particularly useful at night when you are sleeping and may not have a commercial radio or a television station turned on. Remember that the best defense for severe weather is to be prepared.

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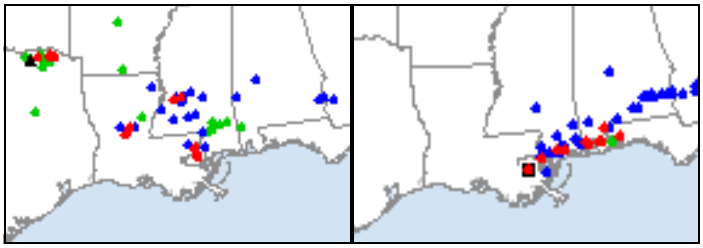
March 8-9, 2011 Severe Weather Review

On the afternoon of March 8th, a warm front moved northward through the lower Mississippi River Valley. As the warm front moved through the area, isolated strong thunderstorms and locally heavy rainfall accompanied it.

The following day, a strong cold front swept through the Gulf South, bringing severe weather and additional heavy rainfall. So far, seven tornadoes have been confirmed across the area , in addition to several other reports of damaging straight-line wind gusts and flash flooding.



Summary of severe weather late Tuesday night (left) and Wednesday (right). Red dots are tornado reports, blue dots are straight-line wind reports, and green dots are hail reports.

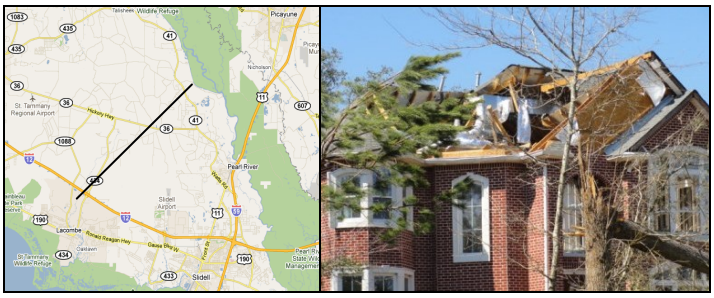
Bush, LA Tornado

Rating: EF-2 with maximum estimated winds 115 MPH
Path Length: 0.5 miles
Maximum Width: 100 yards

The tornado touched down during the early morning hours Wednesday, significantly damaging a few homes. One wood frame house was lifted off of its cinder block foundation and destroyed (top image at left). Another home lost roughly one quarter of its roof and roof decking (bottom image at left). In addition to the structural damage, the limbs of several soft wood pine trees were blown off with some bark removed from the trees as well. An NWS survey estimated the maximum winds at 115 MPH and gave the tornado an EF-2 rating on the Enhanced Fujita Scale.

Lacombe, LA Tornado

Rating: EF-1 with maximum estimated winds 105 MPH
Path Length: 11 miles
Maximum Width: 300 yards



The tornado touched down just south of I-12 and moved north-northeast ward to the Pearl River. The greatest damage occurred in the Fairhope subdivision with numerous trees snapped or uprooted (bottom right picture). One house suffered moderate damage with approximately 25% of its roof lifted off (top right picture). The tornado continued on an intermittent path mostly damaging trees and power poles, ending near Highway 41 north of the Hickory community.

Picayune, MS Tornado

Rating: EF-1 with maximum estimated winds 90 MPH
Path Length: 3 miles
Maximum Width: 100 yards

This tornado is possibly an extension of the Lacombe tornado. However, it is currently recorded as a separate tornado as no path has been established through the wildlife refuge. The path resumes about 5 miles southwest of Picayune. The tornado continued on an intermittent northwest path for approximately 3 miles. The worst damage was inflicted to a home near 6th St. and Forest where a large tree was snapped, and fell on a home.

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March 8-9, 2011 Severe Weather Review, cont.

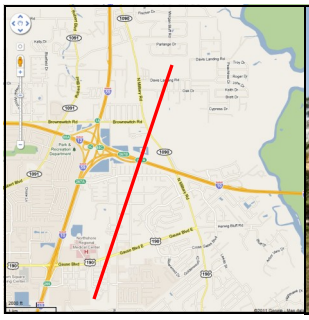
Kenner, LA Tornado

Rating: EF-0 with maximum estimated winds 75 MPH
Path Length: 1.5 miles
Maximum Width: 20 yards

This tornado touched down along East Grandlake Blvd. and moved almost due north across Vintage Dr. and Joe Yenni Blvd. The tornado continued northward into Lake Pontchartrain. Most damage was minor, however, a large tree was uprooted and fell on a house.

Slidell, LA Tornado

Rating: EF-2 with maximum estimated winds 115 MPH
Path Length: 2.5 miles
Maximum Width: 250 yards



The tornado touched down in the Meadow Lake subdivision and moved north-northeastward across Gause Blvd. The worst damage was noted near Lewis Stables where the entire roof and roof decking was lifted off of one house and several other homes suffered minor to moderate roof damage. The tornado then crossed I-10 and Military Rd. It continued to cause minor damage to trees and a few residences before dissipating near Davis Landing Rd.

Gulfport, MS Tornado

Rating: EF-1 with maximum estimated winds 105 MPH
Path Length: 1.0 miles
Maximum Width: 30 yards

The tornado touched down in the Landon Lakes subdivision, NW of Gulfport, causing moderate damage to one home when the garage doors caved in. The tornado also destroyed an out building and awning and uprooted or snapped several trees. Most of the damage occurred along Landon Lakes Blvd and Allen Rd.

Biloxi, MS Tornado

Rating: EF-1 with maximum estimated winds 105 MPH
Path Length: 0.25 miles
Maximum Width: 30 yards

This very short-lived tornado touched down in the Cedar Lake Mobile Home Community near Cedar Lake Rd. and Popps Ferry Rd. The tornado completely destroyed one mobile home when it rolled and separated from its frame, and caused minor to moderate damage to several others.

Flash Flooding

Many of the storms that moved through the area were accompanied by heavy rainfall. In several locations, rainfall rates exceeded 3" per hour. Some of the higher rainfall amounts are listed below.

Location	Rain (in)
Grangeville	6.38
Oaknolia	5.03
Osyka	4.74
Kentwood	4.72
Liverpool	4.65
Mount Hermon	4.58
Gloster	4.49
Kenner	3.88
Baton Rouge	3.73

StormReady

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needed to save lives and property before, during, and after severe weather events by helping community leaders and emergency managers strengthen local safety programs.

While no community can be completely storm-proof, StormReady communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness.

Nationwide, there are 868 StormReady parishes and counties, 714 StormReady communities, 70 StormReady universities, 10 StormReady Indian nations, 35 StormReady commercial sites and 34 StormReady government and military Sites. There are also 129 StormReady supporters across the country. For a map of all StormReady communities, you can visit the StormReady website.

In the WFO LIX forecast area, there are 3 StormReady parishes (East Baton Rouge, St. Charles and Jefferson), 1 StormReady community (the city of Baton Rouge), 1 StormReady government facility (Stennis Space Center) and 1 Storm-Ready Supporter (DOW Chemical's Norco facility). Several other parishes, counties, and communities are working towards earning a StormReady designation.

Most recently, WFO LIX certified Jefferson Parish as a StormReady Parish (picture, top right) and DOW Chemical's Norco facility as a StormReady supporter (picture at bottom right).

Contact Information

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Slidell, LA 70460

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985-649-0357

Email: SR-LIX.Webmaster@noaa.gov

A Note From the Editor…

Severe weather is not a common occurrence along the Gulf Coast, but it does happen, and it does pose a threat to both life and property. With the spring severe weather season upon us, we hope you'll take the time to go over the severe weather safety information discussed in this edition of the Bayou Observer, and review your own severe weather safety plans.

The next edition of the Bayou Observer should be out in late May, and will focus on hurricanes and hurricane safety.

Danielle Manning
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